



S&H Form: (02/05)

**REPLY/AMENDMENT
FEE TRANSMITTAL**

Attorney Docket No.	1484.1005
Application Number	09/813,162
Filing Date	March 21, 2001
First Named Inventor	Syuuzi KODAMA
Group Art Unit	2626

AMOUNT ENCLOSED	620.00	Examiner Name	PIERRE, Myriam
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FEE CALCULATION (fees effective 12/08/04)

CLAIMS AS AMENDED	Claims Remaining After Amendment	Highest Number Previously Paid For	Number Extra	Rate	Calculations
TOTAL CLAIMS	6	- 20 =	0	X \$ 50.00 =	\$ 0.00
INDEPENDENT CLAIMS	4	- 4 =	0	X \$ 200.00 =	0.00
Since an Official Action set an <u>original</u> due date of <u>June 17, 2006</u> , petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month (\$120)); (2 months (\$450)); (3 months (\$1,020)); (4 months (\$1,590)); (5 months (\$2,160)):					120.00
Appeal Brief is enclosed, add (\$500.00)					500.00
If Statutory Disclaimer under Rule 20(d) is enclosed, add fee (\$130.00)					
Information Disclosure Statement (Rule 1.17(p)) (\$180.00)					
Total of above Calculations =					\$ 620.00
Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28)					
TOTAL FEES DUE =					\$ 620.00

- (1) If entry (1) is less than entry (2), entry (3) is "0".
(2) If entry (2) is less than 20, change entry (2) to "20".
(4) If entry (4) is less than entry (5), entry (6) is "0".
(5) If entry (5) is less than 3, change entry (5) to "3".

METHOD OF PAYMENT

- ☒ Check enclosed as payment.
☐ Charge "TOTAL FEES DUE" to the Deposit Account No. below.
☐ No payment is enclosed.

GENERAL AUTHORIZATION

- ☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:
- | | |
|----------------------|--------------------|
| Deposit Account No. | 19-3935 |
| Deposit Account Name | STAAS & HALSEY LLP |
- ☒ The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

SUBMITTED BY: STAAS & HALSEY LLP

Typed Name	Reginald D. Lucas	Reg. No.	46,883
Signature		Date	7-17-06

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Docket No.: 1484.1005

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re the Application of:

Syuuuzi KODAMA

Serial No. 09/813,162

Group Art Unit: 2626

Confirmation No. 2368

Filed: March 21, 2001

Examiner: Pierre, Myriam

For: AUTOMATIC TRANSLATOR AND COMPUTER-READABLE STORAGE MEDIUM
HAVING AUTOMATIC TRANSLATION PROGRAM RECORDED THEREON

BRIEF IN SUPPORT OF APPEAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In a Notice of Appeal filed April 17, 2006, the Applicant appealed the Examiner's November 15, 2005 Office Action finally rejecting claims 1, 3, 4 and 6-8. A fee of \$500.00 is being submitted herewith along with a Petition for a One-Month Extension of Time and the fee for same. Therefore, Appellant's brief is due July 17, 2006. Appellant's brief together with the requisite fee set forth in 37 CFR § 1.17(f) is submitted herewith.

07/18/2006 SDENBOB1 00000064 09813162

01 FC:1402
02 FC:1251

500.00 OP
120.00 OP

(I) Real Party In Interest

The real party in interest in the present appeal is the assignee Fujitsu Limited.

(II) Related Appeals and Interferences

The undersigned attorney, the appellant, and the assignee know of no related appeals or interferences which would be directly affected by or directly affect or have a bearing on the Board's decision in the present appeal.

(III) Status of Claims

Claims 1, 3-4, and 6-8 are currently pending. Claims 1, 3-4, and 6-8 stand finally rejected and are appealed.

(IV) Status of Amendments

No amendments have been filed subsequent to the final rejection.

(V) Summary of Claimed Subject Matter

The present invention provides an automatic translator capable of executing high-speed analytical processing of a typical sentence by a pattern matching method and provides a computer-readable storage medium having an automatic translation program recorded thereon.

In at least one embodiment of the invention, when a character string representing a date and time, for example, is inputted, a morphological analyzer performs the morphological analysis to allow the character string to be converted to morphemes. For example, if the string, "Thu, 09 Jul 1998 07:49:30 – 0700 is inputted, the morphological analyzer produces: [Thu] [,] [09] [July] [1998] [07:49:30] [-0700].

A converter then converts the morphemes to conceptual categories indicative of semantic information. For example, the morpheme [Thu] would be converted to [abbreviated day of the week]. Next, a typical sentence verifying unit verifies whether the sequence of categories has a fixed regularity, that is, whether there is a string of predetermined typical conceptual categories in the sequence of the conceptual categories. In other words, as indicated in claim 1, for example, the typical sentence verifying means verifies whether a string of predetermined typical conceptual categories exists in a sequence of the conceptual categories outputted from the converting means.

Should the typical sentence verifying means verify that the specific pattern matching, for example, [abbreviated day of the week] [comma] [day] [abbreviated month] [year written by four digits] can be determined from prepared patterns, the replacing unit generates a pattern of the predetermined translated sentence, for example, the pattern that is: [year written by four digits] year [abbreviated month] month [day] day [abbreviated day of the week], according to the example presented above. The replacing unit also replaces the pattern of the predetermined translated sentence with translated words corresponding to the original morphemes, for example, [1998] [July] [09] [Thu], according to the example above.

In other words, the replacement unit generates a pattern of a predetermined translated sentence corresponding to the string of the conceptual categories to replace the pattern of the predetermined translated sentence with translated words corresponding to the original morphemes.

Thus, when a typical sentence is included in the original and the translation result of the typical sentence can be decided based on the corresponding relationship between the typical sentence and the translated sentence, the translation relating to only the corresponding part is translated by the present invention. Hence, the result does not have to be sent to the deeper level analyzer. Thus, the length of the original to be sent to the deeper level analyzer is reduced. As a result, the possibility that erroneous translation will occur is decreased, and processing time required for translation can be shortened.

(VI) Grounds Of Rejection To Be Reviewed On Appeal

- A. Claims 1, 4, and 7 stand rejected as being anticipated under 35 U.S.C. § 102 by U.S. Patent Number 5,225,981, issued to Toshihiko Yokogawa *et al.* (hereinafter referred to as Yokogawa)
- B. Claims 3 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yokogawa in view of U.S. Patent Number 5,895,446 (Takeda)
- C. Claim 8 stands rejected with no indication of grounds of rejection

(VII) Argument

- A. Claims 1, 4, and 7 stand rejected as being anticipated under 35 U.S.C. § 102 by Yokogawa. Claims 1, 4, and 7 stand or fall together as a group.

1. Background of the Reference on which the Rejection is Based

Yokogawa attempts to address the problem of coupling of proper nouns in a language analyzer. According to Yokogawa, Yokogawa is capable of judging the extent of the coupling degree between two successive words and capable of judging whether the words are a phrase based on the result. According to Yokogawa, traditionally, upon analyzing morphemes of English sentences, a succession of words starting from a capital letter, is generally parsed as one proper noun. It is not always appropriate to recognize words starting from a capital letter as one proper noun as a whole, as the words may be a plurality of proper nouns that occasionally appear successively.

Yokogawa is directed to a language analyzer for morphemically and syntactically analyzing natural languages used in an automatic translator. The language analyzer includes a dictionary including morpheme data for words, compound words and phrases, and a parsing analyzer for conducting morphological analysis for an inputted sentence by referring to the dictionary. The dictionary contains data for the coupling degree indicating the coupling degree between each of words constituting the compound words or phrases, and the parsing analyzer refers to the dictionary for the respective words contained in the inputted sentence.

According to Yokogawa, English text inputted from an input section is read into a pre-editing section. The pre-edited English data is then transferred together with information obtained in the pre-edition to a morphological analysis section, which divides the sentence by referring to a word dictionary, analyzes the morphemes of the English sentence, and performs various types of arrangements such as processing for unknown words. See Yokogawa, column 10, line 38 *et seq.*

The English data after morpheme analysis is transferred together with the dictionary information obtained by the morphological analysis to a parsing section, which is a functional section that performs parsing for the surface structure of an English sentence by applying a grammatical rule to the English data and determines structural possibilities. A corresponding Japanese sentence tree is prepared from a structural tree and converted into a Japanese underlying structure from which Japanese can be translated. See Yokogawa, column 11, line 5 – line 18.

2. Relevant Law

By its language, 35 U.S.C. § 102 requires that each and every element of a claim be present in a single cited reference to properly have the reference anticipate the claim. See *In re*

Bond, 910 F.2d 831, 15 USPQ2d 1566, 1567 (Fed. Cir. 1992), citing *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675,677, 7 USPQ2d 1315, 1317 (Fed. Cir. 1988); *Lindemann Maschinenfabrik v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984); *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321, 1326 (Fed. Cir. 1992); and *Elmer v. ICC Fabricating Inc.*, 67 F.3d 1571, 36 USPQ2d 1417, 1419 (Fed. Cir. 1995).

3. Application of the Relevant Law

Applicants submit that claims 1, 4, and 7 are patentable over Yokogawa, as Yokogawa does not disclose, “replacing means for generating a pattern of a predetermined translated sentence corresponding to the string of the conceptual categories to replace the pattern of the predetermined translated sentence with translated words corresponding to the original morphemes of the conceptual categories constituting the patterns of the translated sentence,” as recited in claim 1, for example.

On page 4 of the Office Action, the Examiner alleged that Yokogawa discloses, “a replacing means for generating a pattern of a predetermined translated sentence corresponding to the string of the conceptual categories to replace the pattern of the predetermined translated sentence with translated words corresponding to the original morphemes of the conceptual categories. . . .” See Office Action, at page 5 [sic].

According to the Examiner, the structure transformation section 7024 of Yokogawa prepares a corresponding Japanese structure tree from the intermediate English structure and transforms the corresponding Japanese structure tree into a Japanese-underlying structure, from which a Japanese sentence can be translated with translated words corresponding to the original morphemes of the conceptual categories constituting the patterns of the translated sentence.

Applicants respectfully submit that assuming *arguendo* that the Japanese Underlying Structure tree replaces the Japanese Structure tree in Yokogawa, the Japanese Underlying Structure tree is not the equivalent of what serves as a replacement in the present invention. In contrast to Yokogawa, in the present invention, the replacement means generates a pattern of a predetermined translated sentence and replaces the pattern of the predetermined translated sentence with translated words corresponding to the original morphemes of the conceptual categories. Therefore, the replacement in the present invention is, “translated words corresponding to the original morphemes of the conceptual categories.”

As described in the specification of the present invention, the translation relating to the corresponding part, that is, “the translated words,” is already translated to prevent “deeper level analysis.” See specification of the present invention, page 26, lines 18-26.

Yokogawa specifically states that the Japanese-underlying structure, shown by the Japanese underlying structure tree, is sent to a translation generation section where a translated sentence is generated. See Yokogawa, column 51, lines 46-49. Applicants respectfully submit that in contrast to the present invention, the Japanese-underlying structure tree of Yokogawa is merely structure and does not include translated words.

Applicants further submit that Yokogawa does not verify whether a string of predetermined typical conceptual categories exists in a sequence of conceptual categories to determine whether a pattern of a predetermined translated sentence should be generated, as in the present invention. Rather, Yokogawa simply sends English with parsing information to the syntactic analysis II section 7020. See Yokogawa, column 51, lines 29-32.

In light of the foregoing, claims 1, 4, and 7 are patentable over Yokogawa, as Yokogawa fails to disclose the above-identified features of the invention.

(VIII) Argument

B. Claims 3 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yokogawa in view of U.S. Patent Number 5,895,446 (Takeda).

1. Background of the Reference on which the Rejection is Based

According to Takeda, traditionally, some translation patterns are represented by a nested structure which contains a variable representing another translation pattern. With such a configuration, however, the range of language patterns which can be matched by one translation pattern is very narrow, as only one variable is provided for each translation pattern. According to Takeda, where the part of speech of the source language pattern differs from that of the target language pattern, the narrowness would cause a problem. For example, if the source language pattern is, “worry about,” and the target language pattern is, “shimpai da,” the pattern of speech of the source language pattern is a verb, whereas the pattern of speech of the target language pattern is an adjective. In such an instance, the target pattern cannot, traditionally, be represented by a single variable. See Takeda, column 1, lines 53-63.

Takeda is directed to a method for associating a part of a source language text with a translation pattern to translate the part of the source language text into a target language. According to Takeda, translation patterns are provided wherein each of the patterns includes a

source language pattern, a target language pattern corresponding to the source language pattern, a variable corresponding to the source language pattern, and a variable corresponding to the target language pattern. If a part of the source language text matches a source language pattern, the source language pattern is represented with a first variable and the corresponding target language pattern is represented by a second variable. See Takeda, column 2, lines 27-47.

2. Relevant Law

To establish a *prima facie* case of obviousness, one of the three basic criteria that must be met is that the reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the references, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of the criteria.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). See MPEP § 2144 - § 2144.09 for examples of reasoning supporting obviousness rejections.

3. Application of the Relevant Law

Applicants respectfully submit that claims 3 and 6, via their respective independent claims, are patentable over Takeda, as Takeda does not teach or suggest, "replacing means for generating a pattern of a predetermined translated sentence corresponding to the string of the conceptual categories to replace the pattern of the predetermined translated sentence with translated words corresponding to the original morphemes of the conceptual categories," as recited in independent claim 1, for example.

Applicants respectfully submit that Takeda is merely concerned with representing language patterns with variables and does not generate a pattern of a predetermined translated sentence to replace the sentence with translated words corresponding to original morphemes, as in the present invention.

Therefore, claims 3 and 6, via their respective independent claims, are patentable over Yokogawa in view of Takeda, as neither Yokogawa nor Takeda, taken alone or in combination, teaches or suggests the above-identified feature of the claims.

(IX) Argument for Claim 8

Claim 8 was added in the Amendment dated March 15, 2006. Applicants respectfully submit that claim 8 is patentable over the references, as neither of the references, alone or in combination, teach or suggest, "extracting a conceptual category defined by a definition included within the information file when a target morpheme satisfies a condition of each definition included within the vocabulary information file," as recited in claim 8.

Conclusion

Applicants respectfully submit that the Examiner has not established anticipation of the relevant claims, nor has the Examiner established a prima facie case of obviousness by preponderance of the evidence for the relevant claims. Reversal of the rejection is, therefore, requested.

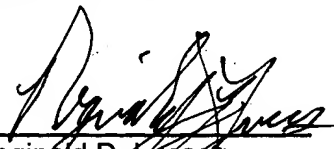
Respectfully submitted,

STAAS & HALSEY LLP

Date:

7/17/06

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X. Claims Appendix

1. (PREVIOUSLY PRESENTED) An automatic translator, comprising:
original inputting means for inputting an original to be translated;
morphological analyzing means for dividing a sequence of morphemes from the original inputted by the original inputting means;
converting means for converting the morphemes to conceptual categories to be output;
typical sentence verifying means for verifying whether a string of predetermined typical conceptual categories exists in a sequence of the conceptual categories outputted from the converting means; and
replacing means for generating a pattern of a predetermined translated sentence corresponding to the string of the conceptual categories to replace the pattern of the predetermined translated sentence with translated words corresponding to the original morphemes of the conceptual categories constituting the pattern of the translated sentence when the string of predetermined typical conceptual categories is determined to exist in the sequence of the conceptual categories by the typical sentence verifying means,
wherein the converting means has a vocabulary information file that defines a relationship between the conceptual categories and the morphemes contained therein, the typical sentence verifying means has a first table that stores a pair of the string of the predetermined conceptual categories and the pattern of the predetermined translated sentence corresponding to the string, and the replacing means has a second table that stores a pair of the morpheme constituting the pattern of the translated sentence and the predetermined translated word corresponding to the morpheme.
2. (CANCELLED)
3. (PREVIOUSLY PRESENTED) The automatic translator according to claim 1, wherein at least one of the vocabulary information file, first table and second table is defined or set by a user.
4. (PREVIOUSLY PRESENTED) A computer-readable storage medium having an automatic translation program recorded thereon, the automatic translation program causing a computer to execute operations, comprising:
inputting an original to be translated;

dividing a sequence of morphemes from the original inputted using a morphological analysis;

converting the morphemes divided by the morphological analysis to conceptual categories and outputting the conceptual categories;

verifying whether a string of predetermined typical conceptual categories exists in a sequence of the conceptual categories outputted; and

generating a pattern of a predetermined translated sentence corresponding to the string of the conceptual categories to replace the pattern of the predetermined translated sentence with translated words corresponding to the original morphemes of the conceptual categories constituting the pattern of the translated sentence when the string of predetermined typical conceptual categories is determined to exist in the sequence of the conceptual categories,

wherein the operations are executed in accordance with a vocabulary information file defining a relationship between the conceptual categories and the morphemes contained therein, a first table storing a pair of the string of the predetermined conceptual categories and the pattern of the predetermined translated sentence corresponding to the string is used for the verifying, and a second table storing a pair of the morpheme constituting the pattern of the translated sentence and the predetermined translated word corresponding to the morpheme.

5. (CANCELLED)

6. (PREVIOUSLY PRESENTED) The computer-readable storage medium according to claim 4, wherein at least one of the vocabulary information file, first table and second table is defined or set by a user.

7. (PREVIOUSLY PRESENTED) A method of automatically translating an original text, comprising:

linking a string of predetermined conceptual categories with morphemes contained therein and a pattern of predetermined translated sentences corresponding to the string;

converting a sequence of morphemes of the original text to conceptual categories and determining whether the string of the predetermined conceptual categories exists in the converted conceptual categories; and

generating a pattern of a translated sentence for a string of the conceptual categories and replacing the pattern of the translated sentence with translated words corresponding to the sequence of morphemes of the translated sentence in accordance with the linkage upon

determining that the string of the predetermined typical conceptual categories exists in the converted conceptual categories.

8. (PREVIOUSLY PRESENTED) A method for translating language, comprising:
converting morphemes to a string of conceptual categories; and
generating a translated sentence corresponding to the string of the conceptual categories;

wherein said converting includes dividing the morphemes and comparing the divided morphemes against a vocabulary information file formed of a specific library to extract the divided morphemes as conceptual categories and extracting a conceptual category defined by a definition included within the information file when a target morpheme satisfies a condition of each definition included within the vocabulary information file.

XI. Evidence Appendix

Not applicable.

XII. Related Proceedings Appendix

Not applicable.